

CLAIMS

1. A seal device with sensor comprising:

a fixed side seal member including a core metal fitted
5 and fixed to a fixed member and a sensor resin molded to
the core metal; and

a rotating side seal member including a cylindrical
part fitted and fixed to a rotating member and a flange
part extending towards the fixed side seal member in
10 continuation with an outer end part in the axial direction
of the cylindrical part; wherein

the core metal of the fixed side seal member includes
a fitting cylindrical part fitted and fixed to a fixed
member, a coupling part extending towards the cylindrical
15 part of the rotating side seal member in continuation with
an inner end part in the axial direction of the cylindrical
part, and a moisture entering prevention cylindrical part
extending outward in the axial direction in continuation
with the coupling part;

20 the outer end part in the axial direction of the
fitting cylindrical part is insert molded so as to be
positioned in the resin; and

an elastic seal is arranged on at least one of the
core metal and the rotating side seal member to slidably
25 contact the other.

2. The seal device with sensor according to claim 1,
wherein the rotating side seal member includes a pulser
arranged at an inner portion in the axial direction of the
5 cylindrical part, the pulser being configured by a
supporting member including a large diameter cylindrical
part, a small diameter cylindrical part, and a coupling
part, and a magnetized body arranged in the supporting
member so as to face the sensor; the elastic seal being
10 arranged at the outer end part in the axial direction of
the moisture entering prevention cylindrical part of the
fixed side seal member and made to approach the outer
portion in the axial direction of the cylindrical part and
the flange part of the rotating side seal member.

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3. The seal device with sensor according to claim 1,
wherein a step including an inner portion in the axial
direction and an outer portion in the axial direction that
is more depressed is formed at the end part of the rotating
20 member; the cylindrical part of the rotating side seal
member is fitted to the outer portion in the axial
direction of the step; a supporting member of the pulser
configured by a cylindrical supporting member and a
magnetized body is fitted to the inner portion in the axial
25 direction of the step of the rotating member, the

magnetized body of the pulser is arranged at the supporting member so as to face the sensor, the elastic seal is arranged at the outer end part in the axial direction of the moisture entering prevention cylindrical part of the fixed side seal member and made to approach the rotating side seal member.

4. The seal device with sensor according to any one of claims 1 to 3, wherein a wiring retrieving cut out for passing a wiring connecting the sensor and a signal processing means is arranged at the outer end part in the axial direction of the fitting cylindrical part of the core metal of the fixed side seal member.

5. The seal device with sensor according to claim 1, wherein the fixed side seal member includes a bulging resin part bulging more outward in the axial direction than the rotating side seal member and extending as the inner diameter extend outward in the axial direction.

6. The seal device with sensor according to claim 1, wherein the resin member for holding the sensor includes a positioning planar end face spaced apart by a predetermined distance outward in the axial direction from the outer end part in the axial direction of the core metal, the outer

surface and the inner surface in the radial direction of the planar end face being positioned more inward in the axial direction than the planar end face.

5 7. The seal device with sensor according to claim 1, wherein a plurality of convex parts are arranged in the circumferential direction in a predetermined interval on at least one of the outer surface or the inner surface in the axial direction of the resin portion exposed from the core
10 metal.

8. The seal device with sensor according to claim 7, wherein the plurality of convex parts are arranged on both the outer surface and the inner surface in the axial
15 direction of the resin member, the convex part on the outer surface in the axial direction acting as a reference surface of pressing in press fitting to the fixed member of the fixed side seal member, the convex part on the inner surface in the axial direction contacting the outer ring in
20 press fitting to the fixed member of the fixed side seal member and preventing further press fitting of the core metal.

9. A roller bearing device comprising a roller
25 bearing configured by a fixed ring serving as a fixed

member, a rotating ring serving as a rotating member, and
rollers arranged between the rings, and a sealing device
with sensor integrally arranged with the roller bearing,
the sealing device with sensor being the seal device with
5 sensor according to any one of claims 1 to 8.

10. The roller bearing device according to claim 9,
wherein the fixed ring is a vehicle body side raceway
member including an attachment to the vehicle body, the
10 rotating ring is a wheel side raceway member including a
wheel attachment, and the device is used as a hub unit for
an automobile.